Master
Informatics – Games Engineering

Introduction to FPSO
(Fachprüfungs- und Studienordnung - Examination and Academic Regulations)

Prof. Dr. Georg Groh
Prof. Dr. Georg Groh:

- Studiengangskoordinator (program coordinator)
- Schriftführer (secretary of the examination committee)
- Room: 01.05.059
- Consultation hours: anytime after email appointment
- SKGamesM@in.tum.de
Wo? Where? What?

- Master Games related websites of the faculty:
  
  http://www.in.tum.de/fuer-studierende/master-studiengaenge/informatik-games-engineering.html

- in particular: links to
  
  - current FPSO of Master Games
  - current APSO (general examination and academic regulations of TUM)
FPSO – Subjects You Have to Take

(a) Compulsory Modules (Pflichtmodule) (30 ECTS)
- IN2015 Image Synthesis (4V, 5 ECTS)
- IN2107 Master-Seminar (2S, 5 ECTS)
- IN2106 Master Lab Course (6P, 10 ECTS)
- IN2257 Additional Master Lab Course (6P, 10 ECTS)

(b) Compulsory Elective Modules (Wahlpflichtmodule) (at least 35 ECTS)
- out of the elective area "Internet-Technologies" at least 5 ECTS
- out of the elective area "Database Systems" at least 6 ECTS
- out of two lines of specialization together at least 24 ECTS, at least 10 ECTS out of each
FPSO – Subjects You Have to Take

(c) Elective Modules (Wahlmodule) (19 ECTS or less)
- any modules out of any line of specialization or
- any subject area of the catalog of elective modules of the Master Informatics (up to 6 ECTS modules of LMU of the fields of Media-Informatics or Human Computer Interaction can be taken) or
- IN2169 Guided Research (6P, 10 ECTS) (analogous to Master Informatics)

(d) Support Elective Modules (Überfachl. Grundlagen) (6 ECTS)
- any modules of the catalog of support elective modules of Master Informatics
Elective Areas and Lines of Specialization

**Elective area „internet-technologies”:**
- IN2097 Advanced Computer Networking 3V+1Ü 5 ECTS E
- IN2259 Distributed Systems 3V+1Ü 5 ECTS E

**Elective area „database systems”:**
- IN2031 Einsatz und Realisierung von Datenbanksystemen 3V+2Ü 6 ECTS D
- IN2118 Database Systems on Modern CPU Architectures 3V+2Ü 6 ECTS E

**Line of specialization „computer graphics and animation” (Prof. Dr. R. Westermann, Prof. Dr. N. Thuerey):**
- IN2297 Geometric Modeling and Computer Animation 4V 6 ECTS E
- IN2298 Simulation for Visual Effects 4V 6 ECTS E
- IN2026 Scientific Visualization 3V+1Ü 5 ECTS E
Elective Areas and Lines of Specialization

Line of specialization „numerics and simulation“ (Prof. Dr. H. Bungartz, Prof. Dr. T. Huckle, Prof. Dr. M. Bader):

- IN2010 Modellbildung und Simulation 4V+2Ü 8 ECTS D
- IN2252 High Performance Computing - Algorithms and Applications 2V+1Ü 4 ECTS E
- IN2012 Parallel Numerics 2V+2Ü 5 ECTS E
- IN2001 Algorithms of Scientific Computing 4V+2Ü 8 ECTS E

Line of specialization „hardware and systems-programming“ (Prof. Dr. A. Bode, Prof. Dr. M. Gerndt):

- IN2076 Advanced Computer Architecture 4V 6 ECTS E
- IN2147 Parallel Programming 2V+2Ü 5 ECTS E
- IN2075 Microprocessors 2V+1Ü 4ECTS E

Line of specialization „Visual Computing“ (Prof. Dr. D. Cremers, Prof N. Navab, PhD):

- IN2246 Variational Methods for Computer Vision 3V+3Ü 7 ECTS E
- IN2228 Multiple View Geometry 4V+2Ü 8 ECTS E
- IN2057 3D Computer Vision 2V+2Ü 5 ECTS E
- IN2124 Basic Mathematical Methods for Imaging and Visualization 2V+2Ü 5 ECTS E
Elective Areas and Lines of Specialization

Line of specialization „autonomous systems“ (Prof. Dr. A. Knoll, Prof. Dr. D. Burschka, Prof. Dr. P. van der Smagt):
- IN2222 Kognitive Systeme 3V 4 ECTS D/E
- IN2138 Robot Motion Planning 3V 4 ECTS E
- IN2067 Robotics 3V+2Ü 6 ECTS E
- IN2064 Machine Learning 4V+2Ü 8 ECTS E

Line of specialization „game theory & algorithmic economics“ (Prof. Dr. M. Bichler, Prof. Dr. F. Brandt, Prof. Dr. H. Seidl):
- IN2239 Algorithmic Game Theory 2V+2Ü 5 ECTS E
- IN2229 Computational Social Choice 3V+2Ü 6 ECTS E
- IN2211 Auction theory and market design 2V 3 ECTS E
- INxxxx Infinite Games 2V+2Ü 5 ECTS E
Elective Areas and Lines of Specialization

Line of specialization „interaction and communication” (Prof. Dr. G. Klinker, Prof. Dr. H. Runkler, Prof. Dr. J. Esparza, Prof. Dr. K. Bengler):
● IN2018 Augmented Reality 3V+2Ü 6 ECTS E
● IN2111 3D User Interfaces 3V+2Ü 6 ECTS E
● IN2112 2D graphical User Interfaces for Desktop-based and Mobile Computer Applications 3V+2Ü 6 ECTS E
● IN2030 Data Mining and Knowledge Discovery 2V 3 ECTS E
● MW0101 Produktergonomie 3V+1Ü 5 ECTS D
● (LMU / LRZ Module) Virtual Reality 2V+2Ü 6 ECTS D
● EI0602 Audiokommunikation 2V+1Ü 5 ECTS D

Line of specialization „Internet-models, -technologies, and -applications” (Prof. Dr. G. Carle, Prof. Dr. F. Matthes):
● IN2045 Diskrete Simulation 3V+1Ü 5 ECTS D
● IN2087 Software Engineering for Business Applications - Master's Course 2V+2Ü 5 ECTS E
● IN2194 Peer-to-Peer-Systems and Security 3V+2Ü 6 ECTS E
● IN2101 Netzsicherheit 3V+1Ü 5 ECTS D
<table>
<thead>
<tr>
<th>Sem</th>
<th>Sum of ECTS credits</th>
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<th>Compulsory Elective Modules: Lines of Specialization</th>
<th>Elective Modules</th>
<th>Supportive Elective Modules</th>
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<tbody>
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<td>Modules out of the elective area „Database Systems“ 6 ECTS IN2106Master-lab-course 10 ECTS</td>
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<td>Master’s Thesis 30 ECTS</td>
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## Example Curriculum (Begin in Summer Term)

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Games Specific Lab Courses

● Basically: You can do any „normal“ Master Informatics lab-course (IN2106, IN2257, (...))

● However: Each Semester ONE formal instance of games specific master lab course (without module number):
  ○ Groups of 3 or 4 students
  ○ Individual topics (comparable to a team thesis topic) offered by lines of specialization (see in.tum.de website)
  ○ construction of a game according to the ETH method
  ○ not scheduled/distributed as normal lab-courses but by individual appointment with respective contact-persons at chairs
Credit Requirements

- until the end of the 2nd semester: at least one module
- until the end of the 3rd semester $\geq 30$ ECTS
- until the end of the 4th semester $\geq 60$ ECTS
- until the end of the 5th semester $\geq 90$ ECTS
- until the end of the 6th semester 120 ECTS

- if You are about to fail one of the requirement deadlines: please contact the chairman of the examination committee (Prüfungsausschussvorsitzender) in written form and state the reasons
- If such a failure can be forseen: contact one of the academic student advisors (Studieberatung) immediately
Stay Abroad: Planning and Transfer Credits

- before your stay abroad: contact me and plan your stay with her in detail.

- for each module from abroad that you want to get transfer credits for here:
  - for foreign modules that have sufficient similarities with an existing module from TUM: contact the respective TUM prof
  - for foreign modules that fit into a line of specialization but don’t have a counterpart at TUM: contact any of the TUM professors responsible for the line of specialization or Georg Groh
  - for “generic” foreign modules corresponding to a lab course or seminar: contact Georg Groh
● International students and „non-Games-Bachelors“:
Please regard that the bridging courses MUST ALL be passed in your first year of study!!!!!!